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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,723	03/17/2004	Tsukasa Yamanaka	Q80484	1889
23373	7590	11/15/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			WALKE, AMANDA C	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,723

Applicant(s)

YAMANAKA ET AL.

Examiner

Amanda C. Walke

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (6,824,956).

Sato clearly teaches the inclusion of monomers meeting the instant structural limitations as part of the photosensitive resin in combination with an acid generator meeting the instant claim limitations. The reference further teaches that, "The resin (A) containing the repeating unit of formula (I) can be used in combination with other resin (A'). The resin (A') includes one containing at least one of the above-recited repeating units other than the repeating unit of formula (I). A weight ratio of the resin (A) to the resin (A') is generally 99/1 to 10/90, preferably 95/5 to 20/80, still preferably 90/10 to 30/70. In view of compatibility, it is desirable that at least one of the repeating units making up the resin (A') be the same as a repeating unit (except the

Art Unit: 1752

unit of formula (I)) of the resin (A). The weight average molecular weight, the molecular weight distribution, and the preference therefor described with respect to the resin (A) apply to the resin (A').” The resin of formula I of the reference teaches that the alkylene group in what is the instant position “R” that is the leftmost carbon of the cyclic ring may be an alkylene group preferably having 1-5 carbon atoms (column 5, lines 36-54), thus one of ordinary skill in the art would have been motivated to choose a 1 or 2 carbon alkylene group for that position. Formula III of the reference teaches and exemplifies units meeting the structural limitations of the instant formula A2. In column 21, monomers 5, 6, and 7, meet the instant claim limitations for the instant formula A2. Therefore, given these teachings, it would have been obvious to one of ordinary skill in the art to prepare the resist of Sato containing resin A which contains formula I and A', choosing A' to comprise a unit of the reference formula III. While the reference is silent with respect to the Tg's of the resins, absent evidence to the contrary, when the resist containing the blends of resins is prepared, it is the position of the examiner that the two resins would differ in Tg by at least 5 degrees given the structural similarities of the resins to those instantly claimed.

1. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al (6,593,056) or Takemura et al (6,511,785) in view of Sato.

Sato has been discussed above.

The Takeda et al and Takemura et al references teach a method of forming a pattern comprising applying a layer of deep-UV photoresist to a substrate, exposing the layer, post – baking the film, developing it, then heating the layer to form a contact hole pattern.

Art Unit: 1752

Given the teachings of the reference cited above for its UV resists for use in a pattern formation method, it would have been obvious to one of ordinary skill in the art to form a pattern by the method of Takeda et al or Takemura et al employing the material Sato as the UV resist.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337.

The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1752

ACW
November 13, 2006

Amanda C Walke
AMANDA WALKE
PRIMARY EXAMINER 11/13/06